2005 Freshwater Emergent Noxious and Quarantine Weed Water Quality Group Monitoring Plan Results

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Introduction

The purpose of this monitoring program is to record any residual concentrations of the aquatic herbicides that are used to treat various freshwater emergent noxious and quarantine weed species in or near the waters of Washington State.

Herbicide application treatments that were monitored occurred between September 14 and October 5, 2005. All treatments were conducted by applicators licensed by the Washington State Department of Agriculture. Sites in Yakima, Pacific, Skamania, Lewis and Clallam counties were sampled before and after herbicide treatment with Glyphosate and/or Imazapyr. Freshwater emergent noxious weeds were the targets of these applications. Hand held injection equipment or back-pack sprayers were used for these applications. All of the sites were located near flowing water along rivers and creeks. For more information on sampling procedures and protocols see the *2005 Annual Group Monitoring Plan for Herbicide Application to Freshwater Emergent Noxious and Quarantine Weeds performed under the Noxious Weed National Pollutant Discharge Elimination System (NPDES) Permit*.

Results

A laboratory accredited by the Washington State Department of Ecology was used for the analysis of all samples. In 2005, Anatek Labs, Inc., Moscow, ID was used for analysis of the monitoring samples. Analytical Method Number EPA 547 was used for all Glyphosate samples. Anatek Labs, Inc. analyzed the Imazapyr samples using a proprietary HPLC/MS/MS method. The sampling information and resultant laboratory results are reported below. All detectible levels of herbicide are reported in micrograms per liter (ug/L). One microgram per liter equals one part per billion (ppb). "ND" indicates that herbicide residue was not detected above the listed practical quantitation limit (PQL) or the minimum reporting level for the Washington Department of Health (SRL).

Site #1

On September 13, 2005, knotweed plants growing along the Washougal River in Thurston County were treated with Glyphosate using a hand held injection gun. The treated area was in cobble adjacent to the stream bed and there was no precipitation during the application. WSDA staff collected the monitoring samples.

Sample Time	**Results**
1 hour before treatment	ND
1 hour after treatment	12.1 ug/L
24 hours after treatment	3.8 ug/L

Table1. Washougal River knotweed treatment site results.

Site #2

On September 15, 2005, several small patches of knotweed plants totaling less than 1 acre growing near the confluence of the Willapa River and Trap Creek in Pacific County were treated with Imazapyr using back-pack sprayers. The applications were made by staff from the Pacific County Noxious Weed Control Board. There was no precipitation during the application and all samples were collected by WSDA staff.

Sample Time	Results
1 hour before treatment	ND
1 hour after treatment	ND
24 hours after treatment	ND

Table 2. Willapa River/Trap Creek knotweed treatment site results.

Site #3

On September 22, 2005, knotweed plants growing near the Newaukum River in Lewis County were treated with Glyphosate using a hand held injection gun. The treated area was in rip rap on the high side of the bank and there was no precipitation during the application. WSDA staff collected the monitoring samples.

Sample Time	Results
1 hour before treatment	ND
1 hour after treatment	ND
24 hours after treatment	ND

Table 3. Newaukum River knotweed treatment site.

Site #4

On September 27, 2005, yellow flag iris plots along Buena Creek in Yakima County were treated with Imazapyr and Glyphosate using a CO_2-pressurized backpack sprayer equipped with a 5-nozzle boom. Twelve test plots, each measuring approximately 8 feet by 20 feet were treated. The applications were part of a study by Washington State University to determine the efficacy of Imazapyr and Glyphosate in controlling yellow flag iris. Staff from Washington State University conducted the applications and WSDA staff collected the monitoring samples. There was no precipitation during the treatments. The collected samples were analyzed for Imazapyr only.

Sample Time	Results
1 hour before treatment	ND
1 hour after treatment	205 ug/L
24 hours after treatment	ND

Table 4. Buena Creek yellow flag iris test plots results.

Site #5

On October 5, 2005, knotweed plants growing along Big River in Clallam County were treated with Glyphosate using a hand held injection gun. The treated area was on a high bank and it was raining during and after the treatment. Monitoring samples were collected by WSDA staff.

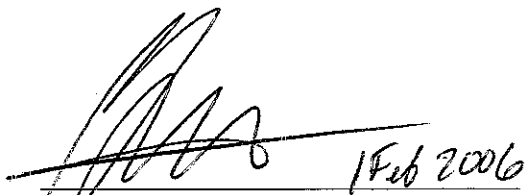
Sample Time	**Results**
1 hour before treatment	Sample was not available.
1 hour after treatment	ND
24 hours after treatment	11 ug/L

Table 5. Big River knotweed injection treatment site results.

Attachment A

Signatory Page

I certify under penalty of law, that this document and all attachments were prepared under my direction, or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiries of the person or persons who manage the system, or those persons directly responsible for gathering information, in information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.



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